

Three New Species of *Amblyseius* Berlese (Acarina: Phytoseiidae) from Australia

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SCHICHA, E., Three new species of *Amblyseius* Berlese (Acarina: Phytoseiidae) from Australia. *Proc. Linn. Soc. N.S.W.* 103 (4), (1978) 1979: 217-226.

Adults and immature stages of *Amblyseius lailae* n. sp. from papaw, adults of *Amblyseius neolentiginosus* n. sp. from *Pinus radiata*, and adults of *Amblyseius neovictoriensis* n. sp. from Indian coral tree (*Erythrina* sp.), all from coastal New South Wales, are described and illustrated.

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INTRODUCTION

The three new species described here were collected in late summer 1978 during collecting trips along the coast of N.S.W. They are suspected of being predators of phytophagous mites.

If not indicated otherwise, three specimens were measured of each of the developmental stages described, values being the range in micrometres (μm). BCRI is the abbreviation for Biological and Chemical Research Institute, Rydalmere.

Genus AMBLYSEIUS Berlese

Amblyseius Berlese, 1914: 143. Type-species by
original designation: *Zercon obtusus* Koch, 1839.

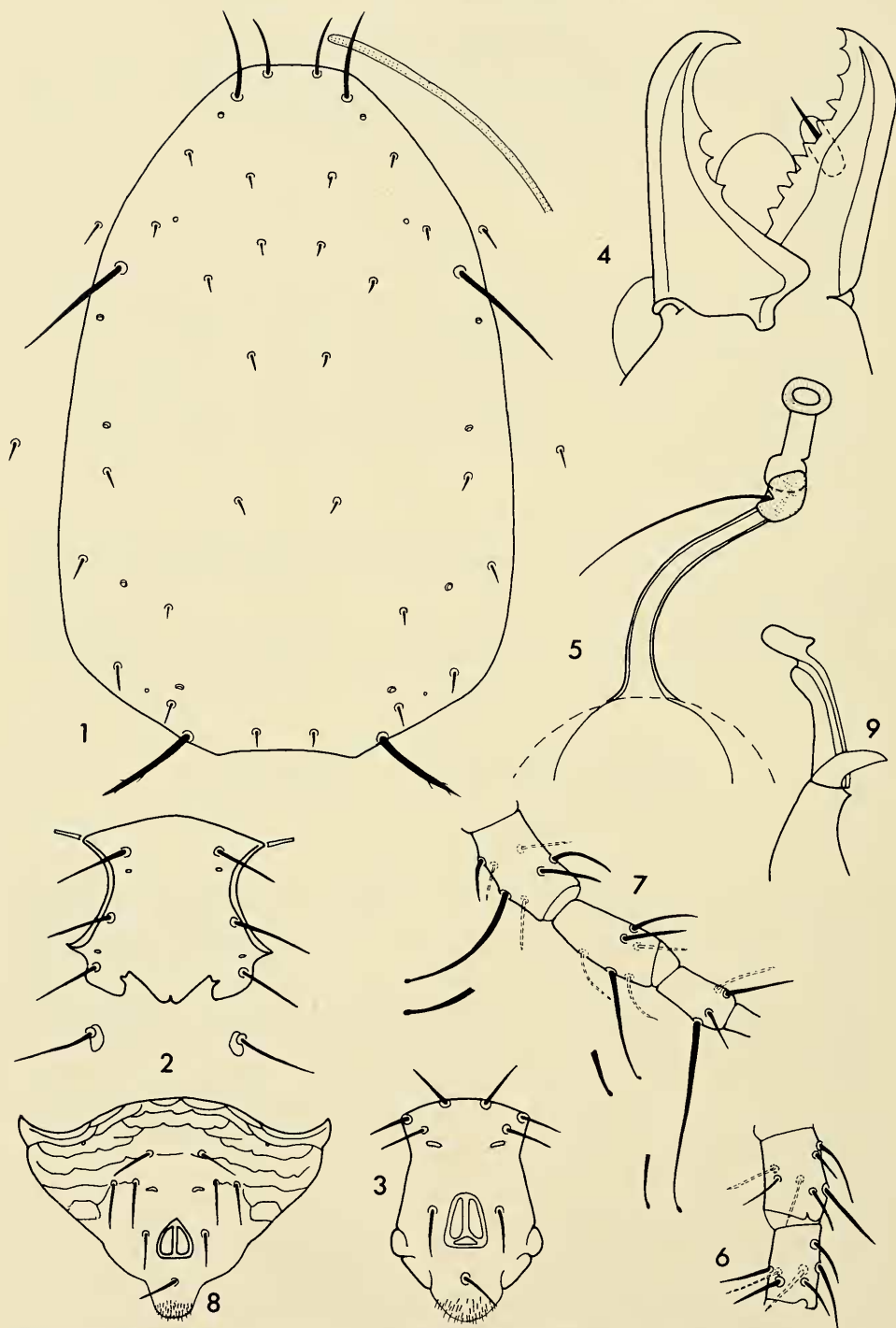
Amblyseius lailae, n.sp.
(Figs 1-22)

Diagnosis. — In the adult stage, *A. lailae* is similar to *A. pafuriensis* van der Merwe (1968). However, in females of *lailae* setae D4, M2, L3, L8 and L9 are slightly longer and setae D1 and L4 are considerably longer than those in *pafuriensis*. In *lailae* the macrosetae on genu III and tibia III are slightly shorter and on genu I, II and IV, tibia IV and basitarsus IV they are considerably shorter. The movable digit of the chelicerae in *lailae* has three teeth, while that in *pafuriensis* has only one. In *lailae* the peritremes reach to the bases of D1 whereas in *pafuriensis* they only reach to the bases of L1.

Types. — NEW SOUTH WALES: on leaves of papaw, Alstonville, 18.iv.1978, M. Elshafie. *Holotype* ♀ (*A.lai.1*) in BCRI; 4 ♀♀ (*A.lai.2-5*) and six ♂♂ (*A.lai.6-7*) *paratypes*; all in BCRI.

Female (Figs 1-7)

Dorsum. — Dorsal shield 343-372 long, 179-199 wide at L4, smooth, with 17 pairs of setae, six dorsal, two median, four prolateral, five postlateral: D1 30-32 long, D2 and D3 6-8, D4 8-9, D5 9-10, D6 7-8, M1 6-8, M2 9, L1 45-48, L2 8-10, L3 8-9, L4 63-71, L5 8-10, L6 11-12, L7 10-14, L8 7-10, L9 57-59. L9 slightly serrated, all other setae smooth. All setae shorter than distances between their bases and bases of setae following next in series, except for L1 which is longer than interspace L1/L2. Five pairs of large pores and two pairs of small pores as figured. S1 16-17 and S2 9-11 long.



Figs 1-9. *Amblyseius lailae*, n.sp., female: 1, dorsum. 2, sternal shield. 3, ventrianal shield. 4, chelicera. 5, spermatheca. 6, leg III. 7, leg IV; male: 8, ventrianal shield. 9, spermatodactyl. The dimensions of these and other characters illustrated in Figs 1-38 are given in the text.

Peritremes extending forward to bases of D1 (Fig. 1).

Venter. — Sternal shield 68-73 long, 84 wide, with three pairs of setae, two pairs of pores and lobate posteriorly. Fourth pair of setae on metasternal shields (Fig. 2). Vase-shaped ventrianal shield 116-121 long, 73-79 wide, with three pairs of preanal setae of equal length and one pair of preanal pores 34-37 apart (Fig. 3).

Chelicera. — Fixed digit 33-37 long, with nine teeth plus pilus dentilis. Movable digit 37-39 long, with three backward pointing teeth (Fig. 4).

Spermatheca. — Tube-like cervix 33-38 long, atrium occupying whole width where cervix fuses with macroduct, the latter very short (Fig. 5).

Legs. — Seven macrosetae: spiniform on genu I 36 long, genu II 36-40, genu III 43-44, tibia III 36-37 (Fig. 6); tapering apically and ending with a little knob on genu IV 73-77, tibia IV 61-62, basitarsus IV 106-111 (Fig. 7).

Male (Figs 8-9) (two specimens measured)

Dorsum. — Dorsal shield 280-290 long, 128-145 wide at L4, smooth, with chaetotaxy resembling that of female: D1 22-25 long, D2 to D4 4-5, D5 6-7, D6 5-6, M1 6, M2 8, L1 35-36, L2 6, L3 8-9, L4 45-49, L5 to L7 8-10, L8 6-7, L9 43-46. S1 16 and S2 7, on interscutal membrane.

Venter. — Imbricated ventrianal shield 114-117 long, 156-158 wide, with three pairs of preanal setae of equal length, the posterior two pairs on a transverse line, and a pair of pores 22-25 apart (Fig. 8).

Spermatodactyl. — Shaft narrow; small foot broad with blunt toe and protruding heel (Fig. 9).

Legs. — Seven macrosetae similar to those of female: on genu I 28, genu II 27, genu III 31, tibia III 27, genu IV 52-53, tibia IV 41-43, basitarsus IV 71-85.

Deutonymph (Figs 10-13)

Female (two specimens measured)

Dorsum. — Smooth dorsal shield 296-319 long, 142-145 wide at L4, with 17 pairs of setae, six dorsal, two median, four prolateral, five postlateral: D1 28-30 long, D2 to D6 5-8, M1 6-7, M2 9, L1 43-44, L2 8, L3 8-10, L4 55-58, L5 11-12, L6 12-13, L7 12-14, L8 6-10, L9 46-48. L9 slightly serrated, all other setae smooth. L1 as long as interspace L1/L2; all other setae shorter than distances between their bases and bases of setae following next in series. Five pairs of large pores and three pairs of small pores as figured. S1 14-16 and S2 25 on interscutal membrane. Peritremes extending to L2 (Fig. 10).

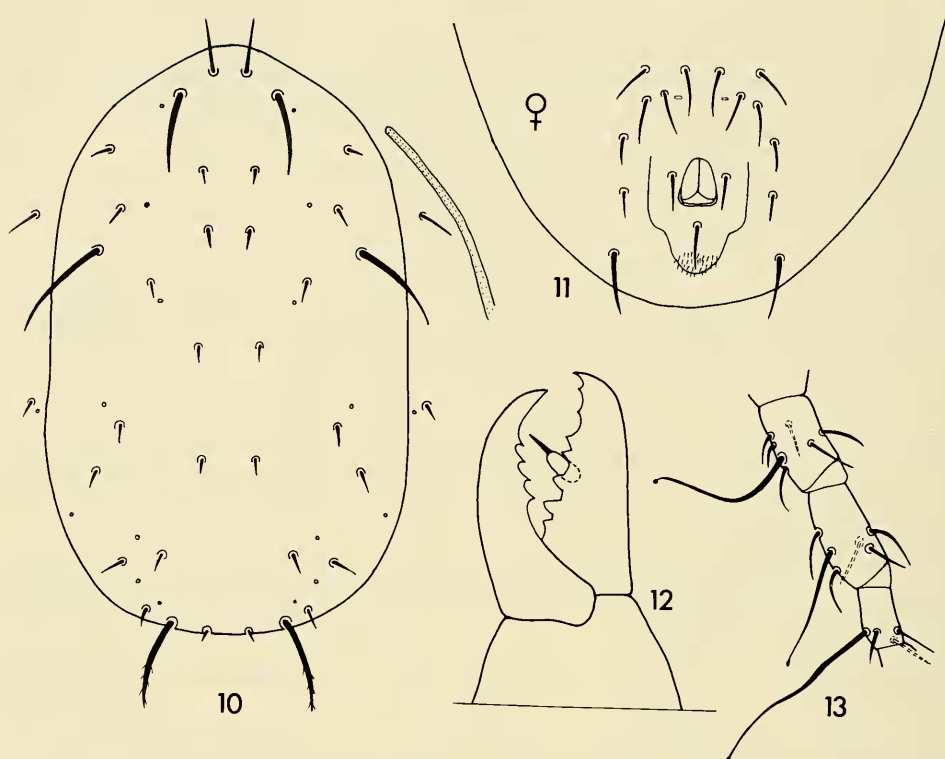
Venter. — Two pairs of preanal setae, two pairs of lateroventral setae, two pairs of posteroventral setae and one pair of caudal setae 32-33 long. Preanal pores 26-30 apart (Fig. 11).

Chelicera. — Fixed digit 25-29 long, with 7-8 teeth and pilus dentilis. Movable digit 28-29 long with three backward pointing teeth (Fig. 12).

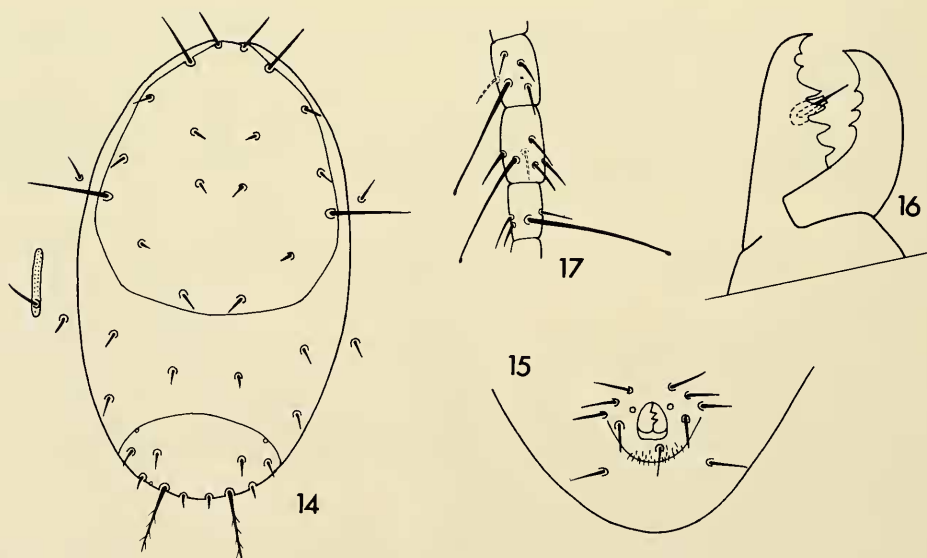
Legs. — Seven macrosetae similar to those of female (holotype): on genu I 35-36, genu II 36-37, genu III 48-49, tibia III 39-40, genu IV 67-71, tibia IV 51-61, basitarsus IV 94-95 (Fig. 13).

Protonymph (Figs 14-17) (one specimen measured)

Dorsum. — Smooth dorsal surface 232 long, 122 wide at L4, bearing two shields. Anterior shield with nine pairs of setae, four dorsal, one median, four lateral; posterior shield with five pairs of setae, one dorsal, one median, three lateral; between



Figs 10-13. *Amblyseius lailae*, n.sp., deutonymph female: 10, dorsum. 11, venter. 12, chelicera. 13, leg IV.



Figs 14-17. *Amblyseius lailae*, n.sp., protonymph: 14, dorsum. 15, venter. 16, chelicera. 17, leg IV.

the two shields three pairs of setae, one dorsal, two lateral: D1 20 long, D2-D6 3-7, M1 4, M2 9, L1 28, L2 and L3 7, L4 43, L5 to L8 5-9, L9 36. L9 slightly serrated, all other setae smooth. L1 as long as interspace L1/L2; all other setae shorter than distances between their bases and bases of setae following next in series. Peritremes 34 long (Fig. 14).

Venter. — Two pairs of preanal setae, one pair of lateroventral setae, one pair of caudal setae, all of near equal length (Fig. 15).

Chelicera. — Both digits 38 long. Fixed digit with six teeth and pilus dentilis; movable digit with three backward pointing teeth (Fig. 16).

Legs. — Seven macrosetae similar to those of female (holotype): on genu I 28, genu II 30, genu III 36, genu IV 65, tibia IV 62, basitarsus IV 78 (Fig. 17).

Larva (Figs 18-22) (one specimen measured)

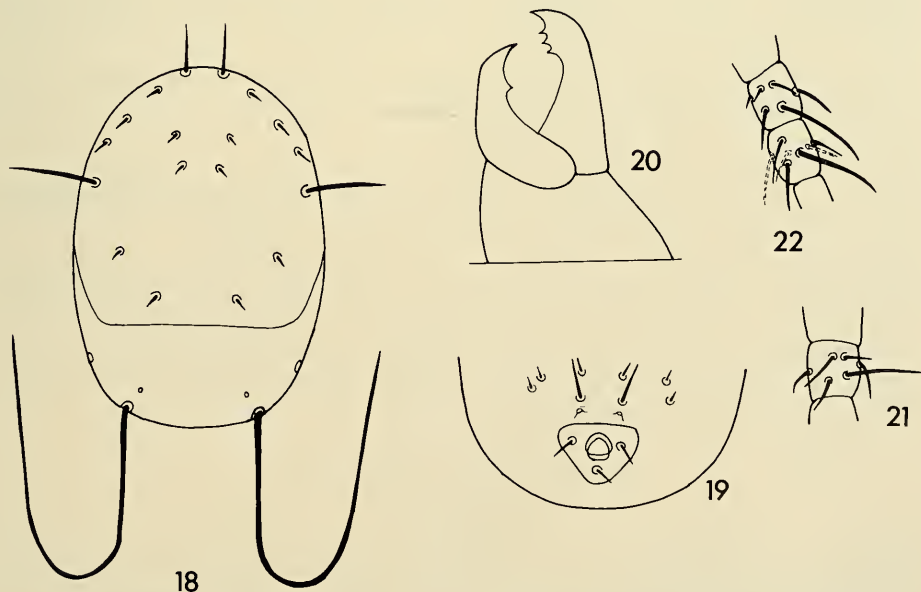
Dorsum. — Smooth dorsal shield 218 long, 116 wide at L4. Ten pairs of smooth setae, four dorsal, one median, four prolateral, one caudolateral: D1 24 long, D2 and D3 3, D4 7, M1 5, L1 and L2 7, L3 8, L4 47, L9 171.

All setae shorter than distances between their bases and bases of setae following next in series. One pair of large pores between L4 and L9 and one pair of small pores near L9 (Fig. 18).

Venter. — Two pairs of preanal setae, posterior pair three times longer than anterior. Two pairs of lateroventral setae short. Preanal pores 19 apart (Fig. 19).

Chelicera. — Both digits 21 long. Fixed digit with three teeth; movable digit with one tooth (Fig. 20).

Legs. — Four macrosetae: on genu I 26, genu II 38, genu and tibia III 50 (Figs 21-22).



Figs 18-22. *Amblyseius lailae*, n.sp., larva: 18, dorsum. 19, venter. 20, chelicera. 21, leg II. 22, leg III.

Amblyseius neolentiginosus, n.sp.

(Figs 23-30)

Diagnosis. — In the adult stage, *A. neolentiginosus* is similar to *A. lentiginosus* Denmark and Schicha (1975). However, in *neolentiginosus* setae D1 are shorter and setae M2, L1, L4, S1, S2 and all three macrosetae on leg IV are considerably shorter than those in *lentiginosus*. In addition, in *neolentiginosus* setae L4 are only approx. half as long as those in *lentiginosus*. In *neolentiginosus* the fixed digit of the chelicerae has 10 teeth whereas that in *lentiginosus* has only seven teeth. *Neolentiginosus* has a well developed atrium between cervix and macroduct of the spermatheca, while *lentiginosus* has no distinct atrium.

Types. — NEW SOUTH WALES: on *Pinus radiata* tips of branches, Narara, 2.ii.1978, E. Schicha. *Holotype* ♀ (*A. neol.* 1); two ♀♀ (*A. neol.* 2-3), one ♂ (*A. neol.* 4) *paratypes*; all in BCRI.

Female (Figs 23-28)

Dorsum. — Smooth dorsal shield 360-365 long, 177-183 wide at L4, with 17 pairs of setae, six dorsal, two median, four prolateral, five postlateral: D1 22-24 long, D2 to D6 4-8, M1 4-5, M2 77-78, L1 35-36, L2 and L3 7-10, L4 44-50, L5 to L8 4-7, L9 113-115. M2 and L9 slightly serrated, all other setae smooth. L1 as long as interspace L1/L2, all other setae shorter than distances between their bases and bases of setae following next in series. Five pairs of large pores as figured. S1 and S2 4 long, on interscutal membrane. Peritremes extending forward beyond bases of D1 (Fig. 23).

Venter. — Sternal shield 60-62 long, 75-80 wide, with three pairs of setae and two pairs of pores as figured. Fourth pair of setae on metasternal shields (Fig. 24). Smooth pentagonal ventrianal shield 114-120 long, 94-100 wide, with three pairs of short preanal setae and a pair of preanal pores 17-19 apart (Fig. 25).

Chelicera. — Both digits 33 long. Fixed digit with ten teeth plus pilus dentilis, movable digit with three teeth (Fig. 26).

Spermatheca. — Tube-like cervix 16-18 long, atrium occupying whole width where cervix fuses with macroduct (Fig. 27).

Legs. — Six macrosetae: on genu I 22-24, genu II 28-31, genu III 36-39, genu IV 53-71, tibia IV 43-48, basitarsus IV 57-62 (Fig. 28).

Male (Figs 29-30) (one specimen measured)

Dorsum. — Dorsal shield 272 long, 156 wide at L4, with chaetotaxy resembling that of female, but all setae relatively shorter: D1 20 long, D2 to D6 4-5, L1 31, L2 and L3 6, L4 37, L5 to L8 4-5, L9 90. S1 and S2 4 on interscutal membrane.

Venter. Slightly creased ventrianal shield 114 long, 156 wide, with three short preanal setae, four pairs of small pores and a pair of large preanal pores 17-19 apart (Fig. 29).

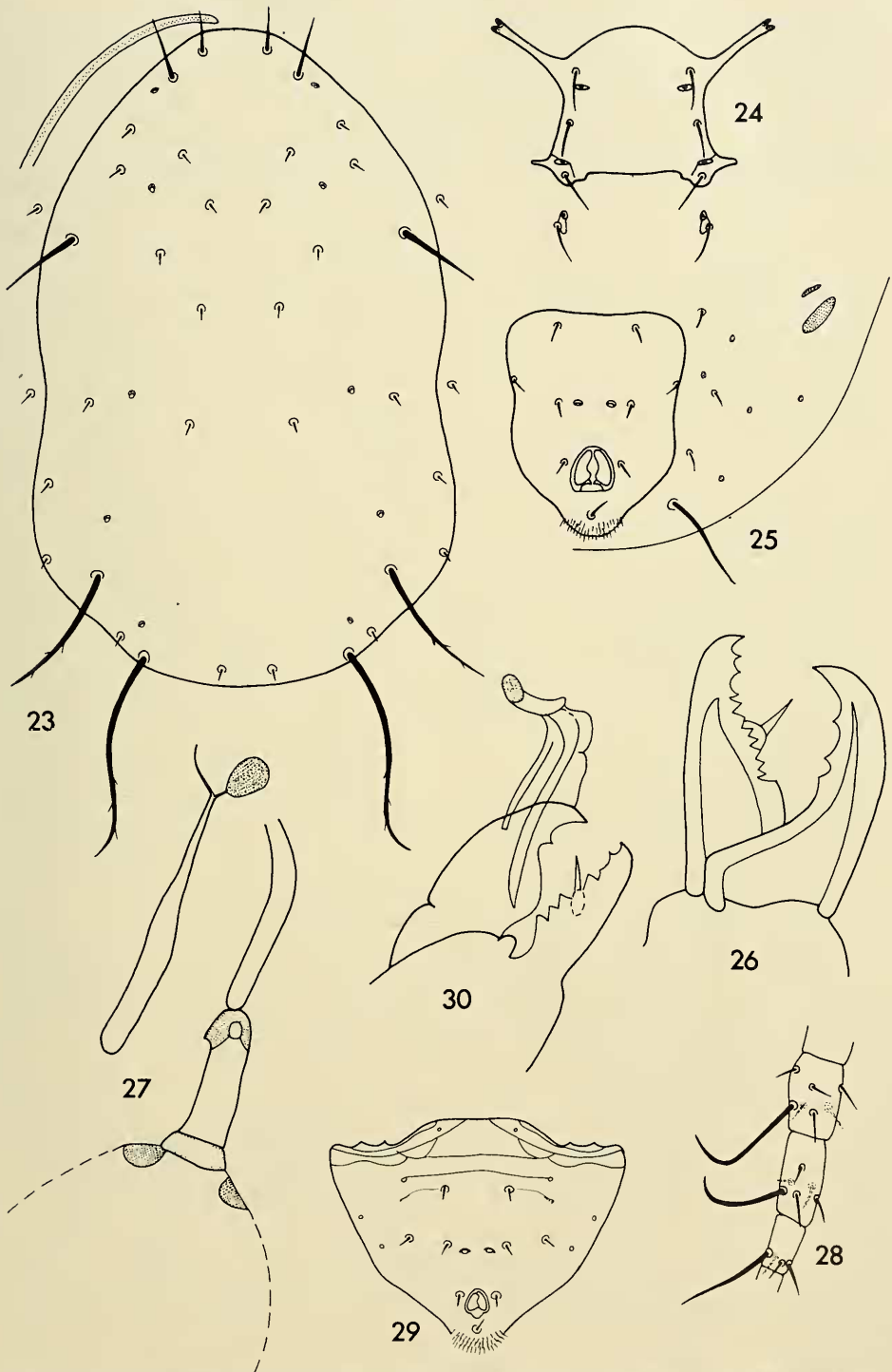
Spermatodactyl. — Shaft 17 long, foot ending with a knob (Fig. 30).

Legs. — Six macrosetae similar to those of female: on genu I 19 long, genu II 21, genu III 23, genu IV 50, tibia IV 32, basitarsus IV 48.

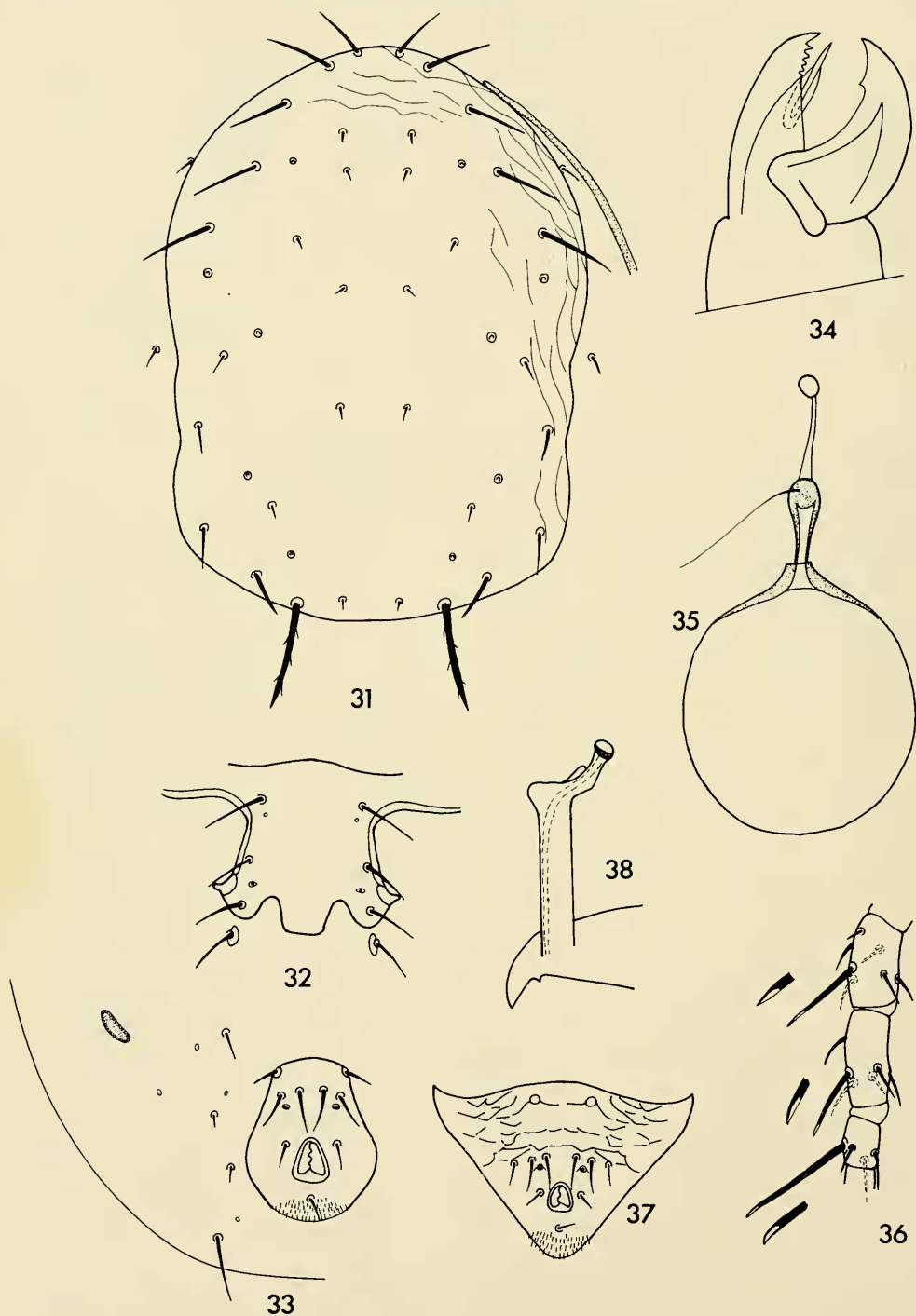
Amblyseius neovictoriensis, n.sp.

(Figs 31-38)

Diagnosis. — In the adult stage, *A. neovictoriensis* is similar to *A. victoriensis* (Womersley) (Womersley, 1954; see also Schicha, 1977). However, in *neovictoriensis* the dorsal shield is narrower and shorter, setae D1 are shorter, and setae L2 and L3 are approx. half as long as those in *victoriensis*. In *neovictoriensis* setae L4 are longer



Figs 23-30. *Amblyseius neolentiginosus*, n.sp., female: 23, dorsum. 24, sternal shield. 25, ventrianal shield. 26, chelicera. 27, spermatheca. 28, leg IV; male: 29, ventrianal shield. 30, spermatodactyl.



Figs 31-38. *Amblyseius neovictoriensis*, n.sp., female: 31, dorsum. 32, sternal shield. 33, ventrianal shield. 34, chelicera. 35, spermatheca. 36, leg IV; male: 37, ventrianal shield. 38, spermatodactyl.

and setae, L6, L7 and L8 are approx. twice as long as those in *victoriensis*. The fixed digit of the chelicerae in *neovictoriensis* has 4 teeth, while that of *victoriensis* has 7 teeth. The two species differ in addition in the shape of their macrosetae of legs III and IV, their spermathecae and their spermatodactyli.

Types. — NEW SOUTH WALES: on Indian coral tree (*Erythrina* sp.), Coffs Harbour, 15.ii.1978, E. Schicha. *Holotype* ♀ (*A.neo.1*) in BCRI; two ♀♀ (*A.neo.2-3*) and one ♂ (*A.neo.4*) *paratypes* all in BCRI.

Female (Figs 31-36)

Dorsum. — Dorsal shield 285-319 long, 182-186 wide at L4, reticulated antero-laterally, with 17 pairs of setae, six dorsal, two median, four prolateral, five post-lateral: D1 28-31 long, D2 to D6 6-8, M1 6-7, M2 9-11, L1 35-39, L2 33-34, L3 36-41, L4 43-46, L5 9-12, L6 17-21, L7 23-28, L8 23-31, L9 59-60. L9 slightly serrated, all other setae smooth. L1 longer than interspace L1/L2; L3 as long as interspace L3/L4. All other setae shorter than distances between their bases and bases of setae following next in series. Five pairs of pores as figured. S1 and S2 9-14, on interscutal membrane. Peritremes extending forward to base of L2 (Fig. 31).

Venter. — Sternal shield 58-62 long, 71-76 wide, with three pairs of setae and two pairs of pores as figured. Fourth pair of setae on metasternal shields (Fig. 32). Vase-shaped ventrianal shield 89-94 long, 75-78 wide, with three pairs of long preanal setae and one pair of preanal pores 27-30 apart. Membrane surrounding ventrianal shield with three pairs of setae and four pairs of small shields. Caudolateral setae 32-37 long. Primary metapodal shield 11-14 long; secondary metapodal shield missing (Fig. 33).

Chelicera. — Both digits 24-26 long. Fixed digit with four teeth plus pilus dentilis. Movable digit with one backward pointing tooth (Fig. 34).

Spermatheca. — Sack-like cervix 11-13 long, atrium occupying whole width where cervix fuses with macroduct (Fig. 35).

Legs. — Six macrosetae: spiniform on genu II 26-28 long, genu III 31-34, tibia III 28-30, genu IV 46-51, tibia IV 36-43, basitarsus IV 63-71 (Fig. 36).

Male (Figs 37-38) (one specimen measured)

Dorsum. — Dorsal shield 236 long, 148 wide at L4, with chaetotaxy resembling that of female: D1 26 long, D2 to D6 4-8, M1 6, M2 10, L1 32, L2 30, L3 31, L4 40, L5 8, L6 17, L7 19, L8 26, L9 46. S1 and S2 14, on interscutal membrane.

Venter. — Imbricated ventrianal shield 94 long, 156 wide, with three pairs of preanal setae, arranged in an almost straight line, and a pair of preanal pores 22 apart (Fig. 37).

Spermatodactyl. — Shaft including foot 25 long; shaft narrow, pronounced heel rounded, toe ending with a suctorial disc (Fig. 38).

Legs. — Six macrosetae similar to those of female: on genu II 19 long, genu III 26, tibia III 25, genu IV 37, tibia IV 33, basitarsus IV 48.

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